

A Comparison of Objectively- and Subjectively-Measured Adherence in Glaucoma Patients of African Descent

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Purpose. Adherence to medical treatment of glaucoma is challenging. People of African descent (AD) have higher prevalence of open-angle glaucoma (OAG) and have been shown to have worse adherence. The goal of this prospective, observational study was to compare objectively- and subjectively-measured adherence in patients of African descent and to determine their relationship with self-efficacy. **Methods.** Twenty-one patients of AD diagnosed with OAG in the past five years were included in this study. Patients used a once-daily topical prostaglandin analog eye drop and self-administered their medication. Subjective adherence was assessed through self-report. Adherence was objectively measured using MEMS bottles. The cap of these bottles records the number of times the bottle is opened. Self-efficacy was assessed using the 10-item Glaucoma Medication Self-Efficacy scale and the 6-item Eye Drop Technique Self-Efficacy scale. MEMS adherence percentages were compared to self-reported adherence using a paired sample two-tailed t-test. To assess the relationship between objectively measured adherence and self-efficacy, patients were divided into 3 groups (n=7 each): high, medium and low adherence groups. The Chi-square test was used to determine whether differences in self-efficacy between the groups were present for each question on the two self-efficacy scales. **Results.** Subjective adherence (mean \pm standard deviation) ($97.34\% \pm 5.61$) was significantly higher than objective adherence ($66.34\% \pm 26.68$) ($p = 0.01$). Of the 21 patients, 17 self-reported higher adherence levels than MEMS adherence levels. 4 patients with the highest levels of objectively measured adherence were the only patients to correctly estimate their adherence by self-report. Only one question was significantly associated with objective adherence: patients with high adherence were significantly more confident about taking their glaucoma medications when they do not experience symptoms ($p = 0.04$). **Conclusions.** Results showed that patients with higher adherence are more confident about using their eye drops in the absence of symptoms.

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